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ABSTRACT

Recent research on sex differences in career and achievement motivation have used one dimensional definitions for the constructs. To investigate sex differences in four dimensions of career motivation, one dimension of achievement motivation, and three clusters of antecedent factors for young women and men, 212 high school graduates (112 females, 100 males), who were 3 years out of high school, completed a battery of career and achievement motivation tests. Data on background characteristics, self-concept factors, and environmental context factors were collected also. An analysis of the results indicated that females endorse a feminine sex role orientation, demonstrate more academic achievement, and are more satisfied with their current role. Males endorse a masculine sex role orientation and are more committed to an occupational career. These findings highlight information on intervention needs of use to the practitioner. (BL)

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Sex Differences in Career and Achievement Motivation[1]

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Paper presented at annual meeting of American Psychological Association, August, 1984.

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Running Head: Sex Differences

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Abstract

The purpose of the study was to investigate sex differences in four dimensions of career motivation, one dimension of achievement motivation, and three clusters of antecedent factors for young women and men. Subjects were 212 graduates who were three years out of high school at the time of data collection. Using discriminant analysis, results indicate that females endorse a feminine sex role orientation, have demonstrated more academic achievement, and are more satisfied with their current role; while males endorse a masculine sex role orientation and are more committed to an occupational career. Implications for practice and further research are discussed.

Sex Differences
in
Career and Achievement Motivation

Sex differences in career and achievement motivation have received much attention from researchers, theorists, and practitioners in recent years. Many of these studies have used one-dimensional definitions of career motivation and achievement motivation. Often they have not attempted to interrelate the achievement and career constructs, and have focused only on specific individual factors that differentiate the sexes. In addition, much of the research on career and achievement motivation has been conducted primarily with young people currently participating in educational systems and not with young adults outside the mainstream.

Sex differences in career development and achievement motivation have been well documented in the literature (Farmer, 1976; Farmer & Backer, 1977; Fitzgerald & Crites, 1980; Harmon, 1972; Maccoby & Jacklin, 1974; Mednick, Tangri, & Hoffman, 1975; Osipow, 1975; Stein & Bailey, 1973). Super (1976, 1980) proposed a definition of career that expanded most traditional conceptions and included other than occupational roles. Many assumptions underlying the traditional conceptualizations are not appropriate for women (Osipow, 1975). There is a great deal of uncertainty for women regarding vocational planning and development (Ginzberg & Associates, 1966) and achievement behavior (Bardwick, 1971). The role conflict between family and occupational career often has been cited as the primary reason for the underrepresentation of women in higher level occupations (Almquist, 1974: Farmer & Bohn, 1970; Valentine, Ellinger, & Williams, 1975). Both Zytowski (1969) and Psathas (1968) contended that the homemaker role, marriage, and children are

important considerations in any career development theory for women. In the current study four dimensions of career motivation and one dimension of achievement motivation were measured and assessed for sex differences.

While it is a well-supported fact that women do not attain as high level occupations as men (Commission on the Status of Women, 1970; Farmer, 1976; Hansen, 1975; Women's Bureau, 1976), there is less evidence of sex differences in the level of educational and occupational aspirations. Sewell (1971) concluded that while women make better grades in high school than do their male cohorts, they still are limited relative to men in levels of teachers' and parents' encouragement and in their levels of educational aspirations.

Greenhaus (1971) and Masih (1967) found that occupational careers were more salient for men than for women. While there have been studies investigating the correlates of career orientation or career commitment of women (Illfelder, 1980; Marshall, 1978; Marshall & Wijting, 1980; Richardson, 1974), the results have not been contrasted with samples of men. Similarly, there have been studies on the homemaking commitment of women (often contrasted with occupational career commitment), but few studies have contrasted the valuing of home and family for both men and women (Arvey & Gross, 1977; Gross & Arvey, 1977).

Helmreich and Spence (1978) found that males scored higher on the mastery motive for achievement that did females. Maccoby and Jacklin (1974), reviewing studies on achievement motivation in women, indicated that adult women, compared with men, did not have lower levels of measured achievement motivation, but they did have less self-confidence than men regarding their ability to perform well on a variety of tasks assigned to them.

Farmer (Note 1) proposed a conceptual schema that suggested that there are several factors which are antecedent to career and achievement motivation. Farmer contended that an expansion of the range of factors and characteristics was needed for a female relevant model of achievement and career motivation. The present study incorporated a broad range of definitions and factors which included background characteristics, self-concept factors, and environmental context factors.

Specific and distinct research projects have investigated several factors that differentiate the sexes. Research findings have indicated that women tend to receive higher high school grades than men (The American College Testing Program, 1972, 1976) and endorse a feminine (expressive) sex role orientation, whereas males endorse a masculine (instrumental) sex role orientation (Bem, 1974, 1975, 1977). Previous research has shown that females have higher achievement values for social approval and altruism than males, while males are higher on mastery achievement values (Hoffman, 1972; Maehr & Nicholls, 1980).

Research on sex differences in causal attributions for achievement behavior have indicated that females are less likely to attribute success to high ability and more likely to attribute failure to poor ability than are males (Deaux, 1976; Sweck & Goetz, 1978). Maehr and Nicholls (1980) suggested that much of the research on achievement motivation for women and other culturally different groups has failed to examine the goals of the behavior (i.e., what it is important to succeed at). They were critical of the sex-typed nature of achievement tasks often utilized in measurement instruments. The important point made by Maehr and Nicholls was that, in many so-called achievement situations, boys and girls may have different goals. Adequate research requires that the goals of any behavior be established and be appropriate, prior to seeking explanations for

success and failure. Success and failure are psychological states based on the perceived reasons for outcome (Maehr & Nicholls, 1980).

Environmental context factors have also been targets for investigations of sex differences. The present study included perceptions of support from parents, teachers, counselors, and the community. Early socialization patterns and parental influence have been found to affect achievement and career motivation differently for boys and girls (Stein & Bailey, 1973; Miller, 1973). Many studies of parental influence have focused on the impact of parents on a woman's choice of career and career orientation (Kriger, 1972; Oliver, 1975; Ridgeway, 1978; Tangri, 1972). Teachers are viewed as the most important influence outside of the family in career planning and occupational choice (Drabick, 1967; Lungstrum, 1973). Good, Sikes, and Brophy (1973) found that teachers reacted to different behaviors presented by boys and girls, with high-achieving boys receiving the most favorable teacher treatment and low-achieving boys receiving the least favorable treatment. Guttentag and Bray (1976) found that teachers often subtly reinforced boys for their ability in achieving behavior while they reinforced girls for trying hard. Dweck, Davidson, Nelson, and Enna (1978) reported that teachers provided different negative and positive feedback to boys and girls.

Counselor sex bias is well documented in the literature (Abramowitz, Weitz, Schwartz, Amiri, Gomes, and Abramowitz, 1975; Collins & Sedlacek, 1974; Schlosberg & Pietrofesa, 1973; Thomas & Stewart, 1971). Jones (1973), in a study of the career aspirations of undergraduate women and minorities, found that lack of counselor encouragement was a significant influence in inhibiting women from pursuing male-dominated professional careers and curricula.

In the past, much of the research on career and achievement motivation has been conducted primarily with young people currently participating in educational systems and not with young adults outside the educational mainstream (i.e., workers and homemakers). The overemphasis on student-based samples for career and achievement research has placed limitations on the generalizations that may be drawn for a cross section of populations (Osipow, 1973). The present study surveyed young people who were out of the high school setting and pursuing worker, homemaker, and student roles.

The present study investigated sex differences for four dimensions of career motivation and one dimension of achievement motivation, as well as a broad range of antecedent factors that may influence the motivations. The antecedent factors included background characteristics, self-concept factors, and environmental context factors. The target population for the current study was young women and men who were three years out of the high school setting and pursuing worker, homemaker, and student roles. The study assessed sex differences using discriminant analysis which considers the intercorrelation of variables in distinguishing between the sexes; often a series of univariate tests can be misleading in interpreting differences among groups.

Method

Subjects

Subjects for the study were 212 graduates of two high schools in the state of Illinois. The subjects graduated from high school in the spring of 1977 and were three years out of high school at the time of data collection. Subjects were in the age range 20-22 years and included 112 females (53%) and 100 males (47%).

The two high schools used to obtain subjects were selected from 15 Illinois high schools participating in a larger, externally funded project (Farmer, Note 2). One high school was designated as semi-urban because the school is located in a bedroom community adjacent to a city with a population of nearly 90,000. The other school was designated rural because it is located in a town with a population of less than 3,500 and draws students from the surrounding rural area. The sample is limited in that it is not representative of urban populations or racial minorities.

There was a total of 186 graduates in 1977 from the semi-urban school and 100 graduates in 1977 from the rural school. High school personnel from the two high schools provided addresses upon graduation for the graduates or their parents. Current addresses were obtained by telephoning this last known address. There were 10 graduates for whom current addresses were not obtainable.

Questionnaires were mailed to 274 graduates from the two high schools. Participants were promised a class roster and a summary of findings upon completion of the study. Follow-up was conducted with postcards and telephone reminders. Seventy-seven percent of the graduates who were mailed questionnaires returned them. There was a 75% return rate for the total possible sample.

Measures

Four dimensions of career motivation and one dimension of achievement motivation were used as discriminating variables. In addition background characteristics, self-concept factors, and environmental context factors were used as discriminating variables. A brief description of each measure

follows. Means, standard deviations, and alpha reliability coefficients may be found in Rooney (1983).

Career Motivation. Three adapted subscales of the Work Salience Inventory--High School/College Form (Super & Culha, 1976) were used to measure three of the dimensions of career motivation. The Career Commitment Scale measured interest in the long-term prospects of an occupation or advancement in an occupation. Items on the Homemaking Commitment Scale assessed the importance of home and having a family, sometimes in contrast to occupational career pursuits. The Work for Support Scale measured motivation to work for economic or livelihood purposes; items on this measure reflect a view of work as instrumental or as a means to have a certain lifestyle or possessions. High scores on each measure reflected strong career commitment, strong homemaking commitment, and strong motivation to work for supportive purposes, respectively.

A fourth dimension of career motivation was the level of education and career aspirations of subjects. Utilizing an adapted form of Holland's (1977) procedure for eliciting occupational daydreams in the Self-Directed Search, subjects were asked to list the occupational career in which they expected to end up and occupations about which they had daydreamed, from most recent to least recent. The expected occupational career and occupational daydreams were scored using Duncan's Socioeconomic Index (Hauser & Featherman, 1977). Using a 10% random sample, interrater agreement on scored occupations was 92%. For analysis the expected occupation and the two most recent occupational daydreams were used. Educational aspirations were measured by asking subjects to mark the highest level of education they expected to complete. Answers ranged from 1 to 6, with the lowest being high school diploma and

the highest a professional level degree (Ph.D., M.D., or J.D.). Scores were standardized for this measure because scaling was different for the items.

Achievement Motivation (Mastery). The mastery subscale of the Work and Family Orientation Questionnaire--3 (WOFO-3) developed by Helmreich and Spence (1978) was used as the measure of achievement motivation. Mastery achievement measured an internal standard for doing things as well as possible and undertaking challenging tasks.

Background Characteristics. Parental occupational status (SES), mother and father educational status, and subject's academic achievement were the background characteristics used in the study. The occupations of both the mother and father were rated using the Duncan Socioeconomic Index (Hauser & Featherman, 1977). Using a 10% randomly selected sample, inter-rater agreement on scored occupations for mother and father was 90%. The parent's occupation with the highest rating was used as an indicator of socioeconomic status. For educational level of the mother and father, a range of responses was possible from grade school to graduate or professional degree. The final high school class rank of the subjects was used to measure academic achievement.

Self-concept Measures. Self-concept variables used in the study were sex-role orientation and achievement values and attributions. A short version of the Bem Sex-Role Inventory (BSRI--short) developed by Bem (1979) was used to measure sex-role orientation. The BSRI--short contains 30 of the original 60 personality characteristics found on the longer form of the Bem Inventory. The measure contains 10 personality characteristics that are considered stereotypically feminine, 10 that are considered stereotypically masculine,

and 10 that serve as filler items. The measure used in the study requested persons to use the characteristics to describe themselves on a Likert-type scale from 1 to 5 (never or almost never true to always or almost always true).

Achievement values and attributions were measured using an instrument developed by Farmer, Maehr, and Rooney (Note 3). Subjects were asked to list two of their own personal successes and then to check from a list provided the degree (a Likert scale ranging from 1 to 5) to which values and attributions were personally meaningful for the listed achievements. Value items were designed to measure two types of values: altruism ("I helped others") and social approval ("I pleased people important to me"). Attribution items measured subject's attributes of ability, effort, luck, and cooperation for the personally generated successes.

Environmental Context Measures. The environmental context measures were parental support, counselor support, teacher support, and community support. All of these measures were attitude scales that reflected perceptions of support by the subjects. The measures were developed by Farmer and staff (Note 2). The General Parental Support instrument measured subjects' perception of past support form their mothers and fathers regarding school in general, success in a career, marriage and family plans, and time spent with the young person. Parent Course Support assessed perceptions of mother and father support for subject's performance in academic courses (science, math, English, and social studies). Counselor Support measured subject's perception of support from counselors in high school, and Teacher Support assessed perceptions of support from high school teachers. The Community Support Scale measured awareness of males and females in nontraditional careers,

perceptions of available and affordable childcare facilities, and perceptions of equal job opportunities for women and men.

Analyses. Discriminant analysis was used to determine what variables discriminated maximally between males and females and to specify the nature of the discrimination. Discriminant analysis provided a measure of the discriminatory power of each of the predictor variables for the two criterion groups (females and males) and suggested the relative weight of their discrimination.

Results

The multiple discriminant analysis using females and males as criterion groups with the other variables as discriminators yields one discriminant function, which is significant: wilks' lambda = .54, $\chi^2(23) = 79.86$, $p < .001$ (Table 1). The eigenvalue for this function is .87 with a canonical correlation of .68. The group means indicate that females have a negative mean (-.88) and males a positive mean (.97) on the discriminating function.

A review of the discriminant coefficients on this function indicates three variables with high negative weights and two variables with high positive weights (only those variables whose absolute values are greater than half of the absolute value of the largest coefficient are considered). The variables with negative weights include Bem-feminine (-.69), class rank (-.54) and role satisfaction (-.36). The variables with high positive weights are career commitment (.44) and Bem-masculine (.37). The discriminating dimension might be characterized at one end by endorsement of expressive or feminine qualities, high academic ability, and satisfaction with one's current role and at the other spectrum by commitment to the long-term prospects of an occupation and endorsement of instrumental or masculine qualities. Using the group means for

females and males, these results suggest that females endorse a more feminine sex role orientation but a less masculine orientation, have a higher class rank, are more satisfied with their current role, and are less committed to an occupational career than males.

In contrasting the discriminant results with the univariate tests of mean differences on the same variables (Table 2), the F- ratio is significant for all contributing variables, but the satisfaction with current role. In addition four other variables are found to be significant in the univariate tests: father's educational level, $F(1, 139) = 6.53$, $p < .01$; homemaking commitment, $F(1, 139) = 4.10$, $p < .05$; work for support, $F(1, 139) = 10.61$, $p < .001$); and education/career aspirations, $F(1, 139) = 4.62$, $p < .05$. In all cases, but one (work for support), the female mean is significantly higher.

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Insert Table 2 about here

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An interesting contrast is that females have higher education/career aspirations than males, yet are found to be less career committed. In fact, in the discriminant analysis career commitment is a significant discriminating variable while education/career aspiration is not. It is also important to note that males and females do not differ significantly on any of the environmental support variables, nor any of the values and attributions variables.

Classification results are reported in Table 3. Eighty-one percent of the cases are correctly classified. The correct classification for females and males is nearly equal (81.1% and 80.6%, respectively), thus error is not made more for one group or the other.

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Insert Table 3 here

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Discussion

While previous research has shown sex differences on several of the factors used in the current study, this study assessed sex differences using discriminant analysis, which considers the intercorrelation of the variables in distinguishing between the sexes. The discriminant analysis derived an underlying dimension on which several factors loaded to distinguish between males and females. In particular, the discriminating function finds greater endorsement of a feminine sex role orientation, higher academic achievement, and greater role satisfaction as more characteristic of young adult women than young adult men, while greater career commitment and greater endorsement of a masculine sex role orientation are more descriptive of young adult men than same age women. The discriminant function is highly significant with 81% of the cases correctly classified using the discriminating function.

The finding that men and women are distinguished on sex role orientation is supportive of previous research evidence (Bem, 1974, 1977; Spence, Helmreich, & Stapp, 1975). Young adult women endorse a more feminine sex role orientation than young adult men, while men endorse a more masculine sex role orientation than women. The present study adds to previous evidence in that both factors contribute highly to an underlying function distinguishing between the sexes when several other variables are considered.

Research evidence indicates that adolescent women tend to receive higher grades in high school than adolescent men (The American College Testing Program, 1972, 1976). In this study a sex difference in overall academic achievement based upon the last grade point average in high school is found. Academic achievement is a strong contributor to the function distinguishing between

females and males, with high academic achievement being more characteristic of females.

Sex differences associated with career commitment is supportive of research evidence provided by Greenhaus (1971), in which men were found to be more committed to an occupational career than women. Studies of the career commitment of women in previous research have often used college women and have not compared the results to samples of men (Marshall & Wijting, 1980; Munley, 1974; Richardson, 1974). The current study used a broad range of young adults, including men, and finds that women and men are differentially committed to an occupational career with males more committed when other factors are considered.

Role satisfaction is another factor contributing to the function discriminating between females and males. Univariate results indicate that there are not significant mean differences on this factor for women and men, although women do indicate greater role satisfaction than men. The fact that role satisfaction contributes to the discriminant function is due to the intercorrelations and redundancy among the variables. When the effects of the other discriminant variables are partialled out, role satisfaction becomes an important contributor to the function distinguishing between the sexes; it provides a unique contribution to discrimination when considering the other variables.

In addition, univariate results of mean differences reveal significant mean differences between the sexes on level of father's education, education and career aspiration level, work for support, and homemaking commitment. Females have the higher mean on all the factors except work for support in which males have the higher mean. These factors did not contribute highly

to the discriminating function because of the redundancy among the variables. It was not predicted that females would have a significantly higher mean on father's educational level and may be only an anomoly of this sample of young people.

It is surprising that females have significantly higher education and career aspirations than males. It has been well documented in research literature that women do not attain as high level occupational and educational status as men (Commission on the Status of Women, 1970; Farmer, 1976, Hansen, 1975), but there is less evidence of sex differences in aspiration levels. The fact that women have higher levels of education and career aspirations than men in the current study may be due to the broad based sample of young adults used. When the sample includes young adults from a broad range of socioeconomic backgrounds, and not just middle class young people in colleges, females have higher aspirational levels than males. Many of the young men in the present study aspired to occupations in technical or skilled areas such as carpenter, welder, millworker, etc., in which further education beyond high school is not required, although apprenticeships may be required. These occupations are ranked lower according to the Duncan Socioeconomic Index than many of the traditional female occupations of secretary, clerical worker, and nurse because of educational requirements in the occupations and sometimes higher salaries. Thus, women aspiring to clerical positions are scored as having higher aspiration levels than men aspiring to technical and skilled occupations. For these reasons, the higher aspirational level of women may not be as surprising as first thought when a broad based sample is being used. It does not mean necessarily that women are changing their aspirational levels in relation to men.

An important contrast found in the current study is that women have higher educational and career aspiration levels than men, yet women are less committed to an occupational career than men. From these results it could be posited that one reason women do not attain as high levels of educational and occupational status as men is because they have not committed themselves to an occupational career rather than because women do not have as high aspirational levels. The role conflict between family and career has been suggested as a primary reason for the underrepresentation of women in higher level occupations (Almquist, 1974; Farmer & Bohn, 1970; Valentine, Ellinger, & Williams, 1975). The lesser commitment to an occupational career resulting from the role conflict between home and career impedes the occupational attainment of women. The conflict experienced by women between career and home makes commitment to a career an uncertain proposition. The lower commitment to the long term prospects of a career for women suggests that lower attainment in careers will result. Women appear to have higher aspirations than men, but the lower commitment to an occupational career may impede attainment of their aspirations.

In conjunction with women being less committed to a career than men, univariate results show that women are significantly more committed to homemaking than men. This may be further support of the possible role conflict existing for women between home and career. For men this role conflict may not overtly exist, yet it may be important to encourage men in their commitment to the home in order to increase their role options. The lower role satisfaction of men may be a consequence of men's limited perceptions of role options. While women highly endorse items on the homemaking commitment measure ($\bar{X}$ = 3.94, Table 2), the differences in means for women and men are not as great for

homemaking commitment as are the differences in means for the two sexes on career commitment. It is also important to note that homemaking commitment is not a major contributor to the function discriminating between the sexes. It appears that the differences between young women and men is not as great in regard to commitment to home and family as are the differences between the two sexes on commitment to a career.

It was expected that men would view work for supportive reasons more than women. Univariate results confirm this prediction with males endorsing work as a supportive endeavor more than females. Hanson and Noeth (1976) found that a smaller proportion of women than men expected pay to be a source of satisfaction. It needs to be noted that the means for both women and men on the work for support measure are much lower than the means on the other career and achievement motivation measures. The lower means suggest that overall these young adults endorse work as a supportive endeavor less than the other dimensions of motivation. While men and women have significantly different means on the work for support measure, the variable is not a major contributor to the discriminant function distinguishing between the sexes. When the other discriminating variables are considered, work for support is less of a distinguishing factor.

Females and males have significantly different means on all of the measures of motivation used in the study, except mastery achievement. This is contrary to the finding of Helmreich and Spence (1978) in which males scored significantly higher on the mastery motive for achievement than females. These contrary findings may be due in part to differences in samples. Helmreich and Spence used college women and men, whereas the current study includes a sample of women and men in several life roles, not just college

students. After reviewing studies on achievement motivation, Maccoby and Jacklin (1974) concluded that adult women did not have lower levels of measured achievement motivation than men; the current study supports their conclusion.

While it was expected that females would endorse social approval and altruism values related to achievements more than males (Hoffman, 1972; Maehr & Nicholls, 1980), results indicate that means are not significantly different for females and males on the achievement values. Subjects generated personally relevant achievements upon which they responded to value items. This procedure results in lack of differences for males and females on the values measures. These results support Stein and Bailey's (1973) contention that women do not work for social approval more than men, but rather the social arena may be where women satisfy their need for achievement. When young adults generate their own personally relevant achievements rather than have them imposed, differences in achievement values are not found for women and men.

The same procedure was used for the achievement attributions in which subjects responded to attributes associated with personally generated success achievements. No sex differences were found for the four types of attributions used in the study. In fact, means are surprisingly similar for females and males on the four attributes of ability. effort, luck, and cooperation. This is contrary to research evidence in which females were less likely than males to attribute success to high ability, but more likely to attribute success to effort than males (Deaux, 1976; Dweck & Goetz, 1978). It was also expected that females would attribute cooperation more to achievements than males (Maehr & Nicholls, 1980). The fact that there are

no sex differences on the achievement attributions may be because subjects generated their own achievement goals and when permitted to do this, no sex differences are found. These findings support Maehr and Nicholls' argument that most studies of causal attributions for achievement have failed to consider the goals of achievements and the appropriateness of the goals for different cultural groups. Many of the studies finding sex differences in attributions have used masculine-defined achievement tasks in which meaning for women, and possibly some men, has been inappropriate (Maehr & Nicholls, 1980). Maehr and Nicholls suggest that the goals of any behavior of interest to researchers needs to be meaningful to the persons being studied before explanations for success and failure can be sought; the present research evidence supports this contention.

Women and men did not differ significantly in their perceptions of support from parents, teachers, counselors, and the community. Because items on the teacher and counselor support measures were concerned primarily with support in academic endeavors and future career plans, documented teacher sex-bias (Dweck et al., 1978; Guttentag & Bray, 1976; Ricks & Pyke, 1973), as well as counselor sex-bias (Abramowitz et al., 1975: Collins & Sedlacek, 1974; Jones, 1973) were expected to adversely affect females; thus males would perceive greater support from teachers and counselors than females. Results indicate that males and females do not significantly differ in their perceptions of support from teachers and counselors. Both sexes perceived little support from counselors with somewhat more support perceived from teachers. It might be said that if no one perceives support from counselors, then it is absurd to look for sex differences. Regarding teacher support, young women tended to perceive greater support from teachers than the young men although the

difference is not significant.

Results from the present study regarding the factors distinguishing females and males suggest several areas for further research. One of the most important areas needing attention from researchers is the lower career commitment of young adult women as compared to young men. The nature of the lower career commitment requires additional research. The reason young women view a career as less salient than men needs exploration. Some writers have suggested role conflict as a reason for the lower attainment levels of women (Almquist, 1974; Farmer & Bohn, 1970; Valentine at al, 1975); role conflict needs to be explored as a possible explanation for the lower commitment of women to a career, particularly in light of the results from the present study indicating the greater commitment of females to homemaking. In-depth interviews with young women occupying various life roles might be used to assess the nature of career commitment and lack of career commitment for adult women. Further research regarding the career commitment of women requires special attention from researchers if programs and services are to be developed to enhance the career commitment of women. In addition, longitudinal study comparing career aspirations with career attainment is needed in order to better understand this relationship, especially in light of the present finding that women have higher aspirations than men.

Another implication of the present study is in regards to achievement values and attributions. Results from the present study indicate that it is indeed important for achievement goals to be meaningful before seeking explanations of values and attributions regarding achievements (Maehr & Nicholls, 1980). When this procedure is used, no sex differences are found, contrary to expectations. This procedure needs further study to assess the generalizability of the present findings. An additional research issue for this

procedure would be differences in goals. Are the goals of achievements different for females and males, as proposed by Stein and Bailey (1973)? Such research might suggest that explanations and values are not different for females and males, but that the achievement tasks, which are meaningful for females and males, are different.

The finding that young adult women are distinguished from men by lower career commitment needs special attention from educators and practitioners, especially in light of females' better academic records and higher aspiration levels. It is important that education personnel encourage women and men equally in their pursuit of occupational careers. Programs and services need to be designed that assist women in assessing their commitment to an occupational career over a lifetime, and how these women may combine and sequence roles during their life. The lower career commitment of women may be a major barrier for women in their attainment of equal occupational status with men. On the other hand, men need to be assisted in recognizing other life role options, as well as assessing the personal costs of high career commitment. Women and men need to be presented with the many occupational opportunities available to them and options regarding the combining of roles. Not only do programs and services need to be directed toward young people, but educators and policymakers need to attend to institutional policies and practices that differentially reinforce women and men regarding occupational and homemaking pursuits and commitments. Socialization practices that encourage men in their occupational pursuits, but not necessarily women, need to be the targets of programs and services. Similarly, socialization that encourages women in home and family activities, and not necessarily men, should be an area for programs and services. For women and men to share in

occupational pursuits and homemaking pursuits, as their interests and skills dictate, is a goal toward which policymakers, educators, and practitioners need to strive.

The lower instrumental (masculine) sex role orientation of females and lower expressive (feminine) orientation of males is an additional area needing attention from practitioners. The discrepancy between the sexes regarding an instrumental and expressive orientation continues to be a barrier to a full range of choices for males and females. As long as women view themselves as less assertive, independent, and instrumental, they will not choose to pursue careers or aspire to certain fields of occupations or levels of occupations. Similarly, men, who view themselves as less understanding, compassionate, and sensitive, may choose to be less involved in the home and family and not pursue certain occupations or roles. The goal of androgyny (Bem, 1974, 1977), which involves greater flexibility in behaviors and personal characteristics, would seem to be an important objective for increasing options and choices among young women and men. Programs and services designed to encourage a full range of behaviors and personal traits for both women and men would be an important step in the attainment of equality of choice and opportunity for both sexes.

Finally, the use of discriminant analysis results has important implications for practitioners. Discriminant analysis provides an underlying dimension upon which groups are distinguished. Such analysis considers the interrelationship of discriminating variables in deriving a more succinct, underlying dimension. The importance of results from this analysis for practitioners is that it suggests factors to be targeted for intervention that are most influential in differentiating the groups while considering other factors.

A constellation of factors are suggested as targets for programs and services that may be most effective in bringing about changes. With the limited time and resources available to practitioners, the advantage of more succinct and influential factors is obvious. When only a series of univariate results are used as the basis for selecting factors for intervention, the factors chosen may not always be the most important when the several factors of real life are considered. Just as discriminant analysis considers the redundancy of factors in distinguishing groups, it seems that practitioners need to consider the redundancy of services if targeted to factors closely related. Results from discriminant analyses that derive an underlying dimension contributed to variously by factors would seem to provide practitioners with valuable information in designing the most effective and efficient programs for impacting different groups.

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Table 1

Discriminant Function Results for Females and Males[a]

	Function 1[b]
Rotated Standardized Discriminant Function Coefficients	
Variable	
Bem-Feminine	-.69
Class Rank	-.54
Career Commitment	.44
Bem-Masculine	.37
Role Satisfaction	-.36
Group Means	
Group	
Females	-.88
Males	.97

Note. $N = 141$.

[a]Discriminant function coefficients were included in table if the absolute value of coefficient was no less than one-half of the largest absolute weight.

[b]$\chi^2(23) = 79.86$, $p < .001$; canonical correlation = .68.

Table 2

Group Means and Univariate Significance Tests for Females and Males

Variable[a]	Group Means		F-Ratio[b]
	Females	Males	
Mother's Education	3.64	3.52	.20
Father's Education	3.95	3.27	6.35**
SES	49.76	47.64	.36
Class Rank	.71	.50	29.11***
Career Commitment	3.32	3.75	13.87***
Education/Career Aspirations	.09	-.20	4.62*
Mastery Achievement	3.53	3.63	1.40
Work for Support	2.54	2.91	10.61***
Homemaking Commitment	3.94	3.66	4.10*
Bem-Feminine	4.34	3.93	24.87***
Bem-Masculine	3.58	3.81	6.53**
Ability Attributions	3.75	3.64	.91
Luck Attributions	3.61	3.51	.58
Effort Attributions	4.32	4.35	.07
Cooperation Attributions	4.18	4.15	.09
Social Approval	4.08	3.95	1.85
Altruism	3.74	3.63	.99
Role Satisfaction	3.48	3.24	3.69
Parent Support	4.12	3.94	2.91
Parent/Course Support	3.89	3.73	1.66
Teacher Support	3.58	3.37	3.06
Counselor Support	2.72	2.67	.14
Community Support	3.15	3.22	.49

[a]All measures are created composites used in analyses. All measures but the three Background Measures and the Education/Career Aspirations measure are on scales ranging from 1 to 5, with 1 being low and 5 being high. The SES measure is on a scale from 4 to 96, and the Mother and Father Educational Level measures are on a scale from 1 to 8, with 8 being the highest level. The Educational/Career Aspirations measure was standardized with a mean of 0 and a standard deviation of 1.

[b]Degrees of freedom for the error term of each test was 1 and 139.

*$p \leq .05$.

**$p \leq .01$.

***$p \leq .001$.

Table 3

Number and Percentage of Females and Males Correctly Classified Based on Discriminant Analysis[a]

Actual Group	No. of Cases	Predicted Group Membership	
		No. of Females (%)	No. of Males (%)
Females	74	60	14
		(81.1)	(18.9)
Males	67	13	54
		(19.4)	(80.6)

[a]Percentage of grouped cases correctly classified is 80.9.